

an establishing unit configured to establish a second communication channel in the second physical network for transmitting the information data from the transmitting node;

a reserving unit configured to reserve a first communication channel in the first physical network for transferring the information data transmitted through the second communication channel to another data transfer control device connected to the first physical network and/or the receiving node; and

a commanding unit configured to command the transmitting node to transmit the information data through the second communication channel, by using a protocol of the second physical network.

2. (Twice Amended) The device of claim 1, wherein the reserving unit transmits a control message commanding a network connection device which connects the second physical network and a third physical network, to register a correspondence between the second communication channel in the second physical network and a header/channel information depending on the third physical network.

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4. (Twice Amended) The device of claim 3, further comprising:

an interface unit configured to connect the data transfer control device to a third physical network or the first physical network; and

a transmission unit configured to transmit the information data received through the second communication channel in the second physical network to the third physical network or the first physical network, onto a channel indicated by said control message, or after attaching the header information contained in said control message.

5. (Twice Amended) The device of claim 3, further comprising:

an interface unit configured to connect the data transfer control device to a third physical network or the first physical network;

a conversion unit configured to convert a data format of data received through the second communication channel, from a first data format depending on the second physical network to a second data format depending on the third physical network or the first physical network and/or an upper logical network of the third physical network or the first physical network; and

a transmission unit configured to transmit said data with the data format converted by the conversion unit as the information data to the third physical network or the first physical network, onto a channel indicated by said control message, or after attaching the header information contained in said control message.

6. (Amended) The device of claim 3, further comprising:

an encoding/decoding unit configured to encode/decode data received through the second communication channel; and

a transmission unit configured to transmit the information data encoded/decoded by the encoding/decoding unit, to a channel indicated by said control message, or after attaching a header information contained in said control message.

7. (Twice Amended) The device of claim 1, wherein the establishing unit establishes the second communication channel in a form of a broadcast type channel.

8. (Twice Amended) The device of claim 1, wherein the reserving unit communicates an information regarding a communication resource required for the first communication channel, with said another data transfer control device and/or the receiving node.

40. (Twice Amended) A method for controlling transfer of information data to a receiving node connected with a first physical network from a transmitting node connected with a second physical network, at one data transfer control device connected with the second physical network, the method comprising the steps of:

(a) establishing a second communication channel in the second physical network for transmitting the information data from the transmitting node;

(b) reserving a first communication channel in the first physical network for transferring the information data transmitted through the second communication channel to another data transfer control device connected to the first physical network and/or the receiving node; and

(c) commanding the transmitting node to transmit the information data through the second communication channel, by using a protocol of the second physical network.

41. (Twice Amended) The method of claim 40, wherein the step (b) transmits a control message commanding a network connection device which connects the second physical network and a third physical network, to register a correspondence between the second communication channel in the second physical network and a header/channel information depending on the third physical network.

43. (Twice Amended) The method of claim 42, further comprising the step of:

(d) connecting said one data transfer control device to a third physical network or the first physical network; and

(e) transmitting the information data received through the second communication channel in the second physical network to the third physical network or the first physical

network, onto a channel indicated by said control message, or after attaching the header information contained in said control message.

44. (Twice Amended) The method of claim 42, further comprising the steps of:

(d) connecting said one data transfer control device to a third physical network or the first physical network; and

(e) converting a data format of dots received through the second communication channel, from a first data format depending on the second physical network to a second data format depending on the third physical network or the first physical network and/or an upper logical network of the third physical network or the first physical network; and

(f) transmitting said data with the data format converted by the step (d) as the information data to the third physical network or the first physical network, onto a channel indicated by said control message, or after attaching the header information contained in said control message.

45. (Twice Amended) The method of claim 42, further comprising the steps of:

(d) encoding/decoding data received through the second communication channel; and

(e) transmitting said data encoded/decoded by the step (d) as the information data, to a channel indicated by said control message, or after attaching a header information contained in said control message.

46. (Twice Amended) The method of claim 40, wherein the step (a) establishes the second communication channel in a form of a broadcast type channel.

47. (Twice Amended) The method of claim 40, wherein the step (b) communicates an information regarding a communication resource required for the first communication channel, with said another data transfer control device and/or the receiving node.

91. (Amended) The device of claim 1, wherein when the information data from the transmitting node is requested to be transmitted to the receiving node via the another data transfer control device,

the another data transfer control device instructs the data transfer control device to transmit the information data from the transmitting node to the receiving node,

the data transfer control device communicates with the transmitting node via the protocol of the second physical network and establishes the second communication channel between the transmitting node and a network control device,

the network control device establishes the first communication channel between the network control device and the receiving node, and

the another data control device instructs the receiving node to receive the information data transmitted through the first communication channel using a protocol of the first physical network.

92. (Amended) The method of claim 40, wherein when the information data from the transmitting node is requested to be transmitted to the receiving node via the another data transfer control device,

the another data transfer control device instructs the data transfer control device to transmit the information data from the transmitting node to the receiving node,

the data transfer control device communicates with the transmitting node via the protocol of the second physical network and establishes the second communication channel between the transmitting node and a network control device,

the network control device establishes the first communication channel between the network control device and the receiving node, and